WE CLAIM:

1. A controller for positioning on a shelf of a data storage cabinet in a mass storage system, comprising:

an interface to a data communication loop linked to device enclosures each including a plurality of data devices and an enclosure processor, wherein the interface is adapted for transmitting control commands onto the data communication loop;

a cabinet bus interface controller linked to a cabinet bus in the data storage cabinet and adapted to receive enclosure reporting messages from the device enclosures including environmental information for the device enclosures and to transmit subenclosure messages including environmental information for the controller; and

a processor for creating the control commands and the subenclosure messages.

2. The controller of Claim 1, wherein the control commands are addressed to one of the device enclosures designated as a primary reporting device.

3. The controller of Claim 2, wherein the processor functions to designate the primary reporting device.

4. The controller of Claim 3, wherein the processor functions to change the primary reporting device designation to a different one of the device enclosures.

5. The controller of Claim 1, wherein at least one of the device enclosures is positioned in a data storage cabinet differing from the data storage cabinet housing the controller and wherein the two data storage cabinets are

communicatively-linked with a cabinet communication network, the different data storage cabinet including a cabinet bus linked to the cabinet communication network to provide a communication path for the enclosure reporting messages from at least one of the device enclosures.

6. The controller of Claim 1, wherein the cabinet bus interface controller is configured to receive cabinet identification and shelf identification signals from the cabinet bus and to determine a shelf identifier from the shelf identification signals, and wherein the subenclosure messages include the shelf identifier and the cabinet identification.

7. The controller of Claim 1, wherein the enclosure reporting messages comprise SCSI-3 Enclosure (SES) data.

8. The controller of Claim 1, the cabinet bus interface controller emulates a memory image to the processor including read only memory, non-volatile read and write memory, and read and write memory.

9. The controller of Claim 8, wherein the read only memory includes a shelf identifier field for storing a shelf identifier for the controller and a cabinet number field for storing a cabinet identifier for the data storage cabinet.

10. The controller of Claim 8, wherein the cabinet bus interface controller transmits interrupt signals to the processor based on changes to the memory image.

11. A method of controlling communications in a data storage complex, comprising:

providing a controller including a processor for creating and transmitting control commands and a cabinet bus interface controller for providing an interface between the processor and other devices in the storage complex; and

communicatively linking the controller to a plurality of enclosures with a data communication loop and with a cabinet bus, wherein the control commands are transmitted over the data communication loop and wherein environmental status messages are received by the controller over the cabinet bus.

12. The method of Claim 11, wherein the cabinet bus interface controller includes a data structure for storing a reporting group assignment for the controller and wherein the cabinet bus interface controller is configured to, prior to the receiving, determine whether the environmental status messages on the cabinet bus originate from ones of the enclosure assigned to the controller reporting group.

13. The method of Claim 12, further including determining with the cabinet bus interface controller from signals on the cabinet bus a shelf position of the controller within a cabinet in the data complex.

14. The method of Claim 12, further including determining ones of the enclosures participating in the controller reporting group.

15. The method of Claim 11, wherein each of the enclosures includes a plurality of devices linked to the data communication loop and further including bypassing malfunctioning ones of the devices on the data communication loop.

16. The method of Claim 15, wherein the bypassing is performed on a targeted one of the enclosures within a targeted cabinet in the data storage complex.